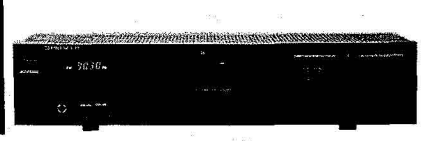
PIONEER

Service Manual

CIRCUIT DESCRIPTIONS
REPAIR & ADJUSTMENTS



ORDER NO.
ARP-702-0

AUDIO/VIDEO STEREO RECEIVER

SX-V200

MODEL SX-V200 COMES IN FOUR VERSIONS DISTINGUISHED AS FOLLOWS.

Type	Voltage	Remarks
KU	AC120V only	U.S.A. model
KC	AC120V only	Canada model
S	AC110V, 120V, 220V, 240V (Switchable)	General export model
HEZ	AC220V, 240V (Switchable)	West Germany model

- This service manual is applicable to the KU type.
- As to the S type, please refer to the additional service manual (ARP-703).
- As to the HEZ type, please refer to the additional service manual (ARP-704).
- As to the KC type, please refer to the additional service manual (ARP-705).
- Model SX-V200 comes in two colors design, black and silver. (KU type only).
- As to the circuit descriptions, please refer to the SX-V300 service manual (ARP-707).
- Ce manual d'instruction se refère au mode de réglage, en français.
- Este manual servicio trate del método ajuste escrito en enpañol.

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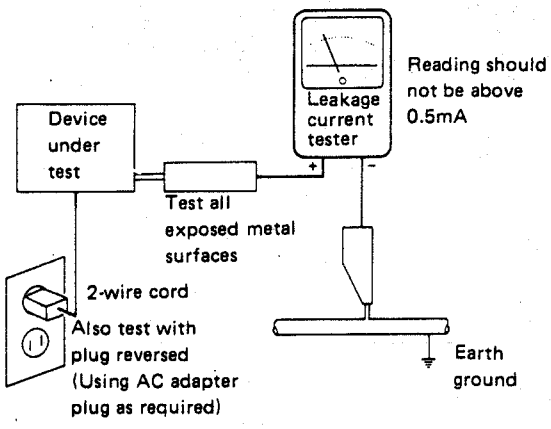
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

Amplifier Section

Continuous Average Power Output is 30 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.3% total harmonic distortion.**

Continuous Power Output at 1 kHz (both channels driven)
T.H.D 0.1%, 8 Ω ..... 37 W per channel
Total Harmonic Distortion
1 kHz 1 W 8Ω 0.1%
(1/2 power) 20 Hz to 20 kHz 15 W 8Ω 0.07%
Damping Factor (1 kHz, 8Ω) 24
Input (Sensitivity/Impedance)
PHONO MM ..... 2.5 mV/50 kΩ
CD, TAPE PLAY, AUX, VCR ..... 150 mV/30 kΩ
Phono Overload Level (T.H.D. 0.08% 1,000 Hz)
PHONO MM ..... 140 mV
Output (Level/Impedance)
TAPE REC ..... 150 mV/2.2 kΩ
SPEAKER ..... A, B, A series B, OFF
Applicable speaker impedance ..... 6 to 16Ω
Frequency Response
PHONO (REC OUT) ..... 20 Hz to 20,000 Hz ± 0.5 dB
CD, AUX, (SPK OUT) ..... 10 Hz to 70 kHz $^{+1}_{-3}$ dB
Tone Control
BASS ..... ±10 dB (100 Hz)
TREBLE ..... ±10 dB (10 kHz)
Loudness Contour (Volume control set at −40 dB)
..... +6 dB (100 Hz), +3 dB (10 kHz)
Hum and Noise (IHF, short circuited A network)
PHONO MM ..... 72 dB
CD, TAPE PLAY, AUX, VCR, ... 98 dB

FM Tuner Section

Frequency range ..... 87.5 MHz to 108 MHz
Usable Sensitivity ..... Mono; 10.8 dBf, (0.95 μV/ 75 Ω)
50 dB Quieting Sensitivity ..... Mono; 15.7 dBf, (1.6 μV/75 Ω)
Stereo; 37 dBf, (19.5 μV/75 Ω)
Signal-to-Noise Ratio ..... Mono; 80 dB (at 65 dBf)
Stereo; 75 dB (at 85 dBf)
Distortion (at 65 dBf) ..... Mono; 0.4% (1 kHz)
Stereo; 0.4% (1 kHz)
Capture Ratio ..... 1 dB
Alternate Channel Selectivity ..... 65 dB (400 kHz)
Stereo Separation ..... 40 dB (1 kHz)
Frequency Response ..... $^{+0.5}_{-1}$ dB (30 Hz to 15 kHz)
Spurious Response Ratio ..... 70 dB
Image Response Ratio ..... 50 dB
IF Response Ratio ..... 116 dB
AM Suppression Ratio ..... 50 dB
Antenna Input ..... 300 Ω balanced
75 Ω unbalanced

AM Tuner Section

Frequency range ..... when 10 kHz step
530 kHz to 1600 kHz
..... when 9 kHz step
531 kHz to 1602 kHz
Sensitivity (IHF, Loop antenna) ..... 250 μV/m
(IHF, External antenna)..... 10 μV/m
Selectivity ..... 20 dB
Signal-to-Noise Ratio ..... 50 dB(at 100 dBμV/m)
Image Response Ratio ..... 45 dB
IF Response Ratio ..... 60 dB
Antenna ..... Loop Antenna

Miscellaneous

Power Requirements
HE model ..... a.c.220 V ~, 50/60 Hz
HB model ..... a.c.240 V ~, 50/60 Hz
KU and KC models ..... AC 120 V, 60 Hz
S, SS and S/G models ... AC 110/120/220/240 V, 50/60 Hz
Backup system, with last function memory
(FUNCTION, STATION) .....Capacitor type
Power Consumption ..... 155 W
Dimensions ..... 420(W) x 98(H) x 225(D) mm
16-9/16(W) x 3-7/8(H) x 8-7/8(D) in
Weight (without package) ..... 4.8 kg (10 lb 9 oz)

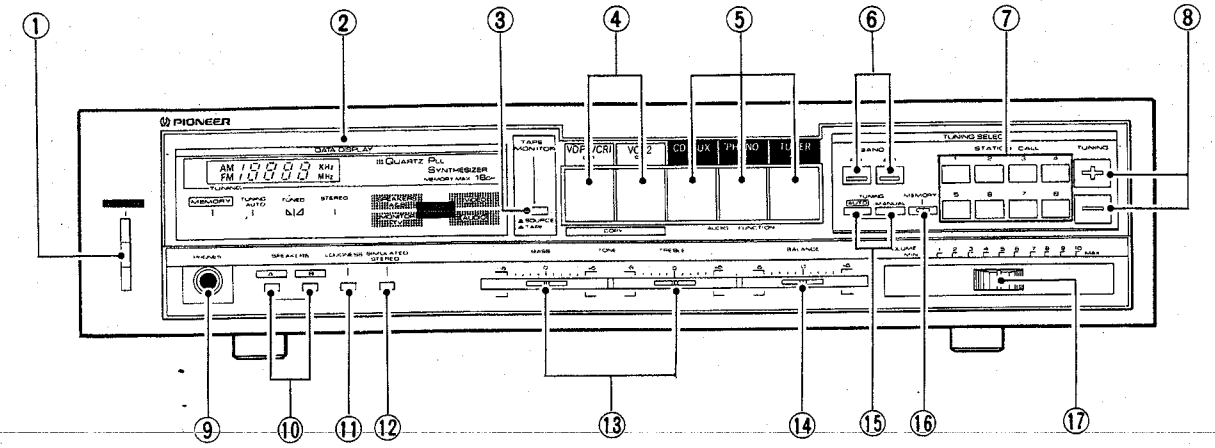
Furnished Parts

FM T-type Antenna 1
AM Loop Antenna 1
Operating Instructions 1

**Measured pursuant to the Federal Trade Comission's Trade Regulation rule on Power Output Claims for Amplifiers.*
***Measured by Audio Spectrum Analyzer.*

NOTE:
Specifications and design subject to possible modifications without notice due to improvements.

3. FRONT PANEL FACILITIES



① POWER switch

When this switch is pressed, power is supplied to the unit. To turn power off, press the switch again, to the released position.

PROTECTION CIRCUIT

For several seconds after initially turning on the power, no sound will be produced from the speakers.
This is due to the operation of the built-in protection circuit, which removes unpleasant noise produced when the power is turned on, and also prevents unreasonable power surges from being impressed on the speakers when direct current is output.

② Display panel

For details, see the section "Display Panel Facilities."

③ TAPE MONITOR switches

Use these switches when playing back tapes or monitoring a recording.

TAPE : Press when performing with a tape deck connected to the TAPE jacks on the rear panel.

④ VIDEO FUNCTION switches

VDP/ VCR1 : Press when performing playback on a video disc player (VDP) or video cassette recorder (VCR).
When recording from VCR1 to VCR2, either the VDP/VCR1, or the VCR2 switch may be pressed.

VCR2 : Press when performing playback on a second VCR (for copying).

⑤ AUDIO FUNCTION switches

CD/ AUX : Press when listening to a stereo component connected to the CD/AUX jacks on the rear panel (e.g., a Compact Disc Player or playback-only tape deck [purchased separately]).

PHONO : Press when playing records on a turntable connected to the PHONO jacks on the rear panel.

TUNER : Press when listening to radio broadcasts.

⑥ BAND selector switches

FM : Press this switch for FM reception.
AM : Press this switch for AM reception.

⑦ STATION CALL switches

These are pressed to call out preset broadcasting stations and to preset the station.
To call out a station, first set the desired frequency band using the FM or AM switches and then press the desired switch.

⑧ TUNING switch

This switch is used to tune in the station.
Depress the "+" part to tune in a station with a higher frequency than that on the display; depress the "–" part to tune in a station with a lower frequency.

⑨ PHONES jack

Connect the plug on your headphones to this jack. To listen to a program through the headphones, turn both the SPEAKER A and B switches to OFF position.

⑩ SPEAKER switches

These are used to select the speakers through which you wish to listen.

A : When the speakers connected to A terminals are in use.

B : When the speakers connected to B terminals are in use.

- Turn both A and B speakers to OFF position when only the HEADPHONES are in use.

NOTE:
No sound will be heard through the speakers when both A and B switches are depressed if only one set of speakers has been connected to either A or B SPEAKER terminals.

⑪ LOUDNESS switch

Depress this switch to the (■ ON) position when listening to sound at a low level of volume. This will enhance the bass and treble and give more life to the sound even at a low volume.

⑫ SIMULATED STEREO switch

This turns monaural signals into simulated stereo sound. Use this when you wish to experience the sense of stereo presence with AM broadcasts, VCR or other monaural signal sources.

NOTE:
This function can also be used with stereo sources, but it will result in a different sound from the normal stereo sound.

⑬ TONE controls

These controls are used to adjust the tone quality.

BASS : Use this control to adjust the bass of the sound. When the control is moved from the central position towards "−", the bass is attenuated and when it is moved towards "+", the bass is emphasized.

TREBLE : Use this control to adjust the treble of the sound. When the control is moved from the central position towards "−", the treble is attenuated and when it is moved towards "+", the treble is emphasized.

⑭ BALANCE control

Use to control the sound-volume balance between the right and left channels. If the sound volume produced by the right speaker is too low, slide the control towards the "R" side. If the left-speaker sound volume is too low, slide the control towards the "L" side.

⑮ TUNING MODE switches

These switches are used to select the reception mode.

AUTO tuning

When the TUNING switch is pressed, the receiver begins scanning the broadcast station frequencies. When a broadcast is received, the scanning stops at that frequency. Also, when the tuning mode is changed, the scanning stops at the reception frequency at that time. If you wish to receive a different station, press the TUNING switch once again. As before, the receiver will move to the next broadcasting frequency and stop there.

MANUAL tuning

This is the usual tuning method. Each time the TUNING switch is pressed, the reception frequency will be changed, in accordance with the position of the CHANNEL STEP switch, by a 50 kHz step or 100 kHz step on FM, or by a 9 kHz step or 10 kHz step on AM. If the TUNING switch is pressed continuously, the receiver will scan the broadcast frequencies continuously. When the receiver reaches the upper or lower limit of the possible reception frequencies, the scanning will automatically stop.

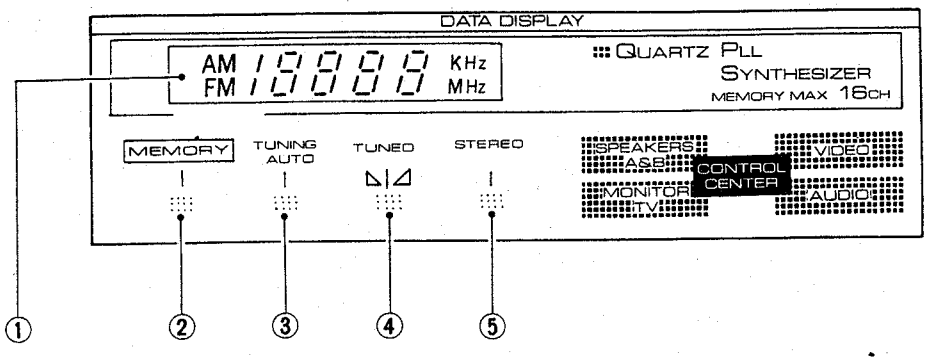
⑯ MEMORY switch

This switch is used to preset selected broadcasting frequencies (stations) in the STATION CALL switches. When this switch is pressed, the display panel's MEMORY indicator lights. Presetting of stations is performed during the time the MEMORY indicator is lighted.

⑰ VOLUME control

Use this control to adjust the sound volume produced from speakers and headphones. Sliding the control from the "0" position towards the right will result in increased sound volume.

4. DISPLAY PANEL FACILITIES



① Frequency Display

This digital display indicates the frequency of the broadcasting station currently being received.

② MEMORY indicator

This indicator lights when the MEMORY switch is pressed.

③ TUNING AUTO indicator

This indicator lights when the reception mode is set to AUTO tuning.

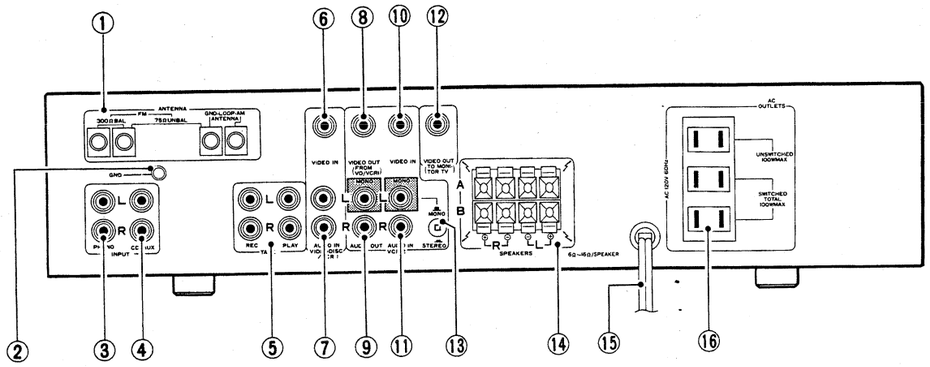
④ TUNED indicator

This lights up to indicate that an FM or AM station has been tuned in.

⑤ STEREO indicator

This lights up to indicate that an FM station broadcasting in stereo has been turned in.

5. REAR PANEL FACILITIES



TUNER SECTION

① ANTENNA terminals

These terminals are used for connecting FM and AM antennas. For details, see the section, "Hints for Better Reception."

AUDIO SECTION

② PHONO GND terminal

Connect the ground lead of the turntable to the GND terminal on the receiver.

③ PHONO INPUT jacks

Connect the output cords of a turntable to the PHONO input jacks. Be sure to connect left (L) channel and right (R) channel correctly.

④ CD/AUX INPUT jacks

Connect to the output terminals of a compact disc player or playback-only tape deck.

NOTE:
- *Each of the S model terminals ⑥, ⑧, ⑩ and ⑫ is a BNC connector, not an RCA type pin jack as drawn in the illustration.*
- *The AC outlets of the S and S/G models are not the 3-outlet type but rather the 2-outlet type, and each has an FM DE-EMPHASIS switch, a CHANNEL STEP SWITCH and a VOLTAGE SELECTOR switch attached.*

The same applies for illustration drawn on the succeeding pages.

⑤ TAPE REC OUT, PLAY BACK jacks

Connecting for Recording

The tape recording jacks (TAPE REC) on the tape deck should be connected to the REC side of the TAPE jacks on the receiver with pin plug connecting cords.

Connecting for Playback

Connect the TAPE PLAY jacks on the tape deck and the PLAY side of the TAPE jacks on the receiver with pin plug connecting cords.

⑥ VIDEO DISC/VCR 1 VIDEO INPUT jacks

When playing back a video disc player (VDP) or video cassette recorder (VCR), connect these jacks to the component's video output jacks.

NOTE:
When connecting only one VDP or VCR to these jacks, consult the Operating Instructions of the component concerned regarding the connection of a VHF or UHF antenna.

⑦ VIDEO DISC/VCR1 AUDIO INPUT jacks

Connect to the audio output jacks of a video component such as a VCR or VDP (video disc player).

⑧ VCR2 VIDEO OUTPUT jack

When copying program materials from the video component connected to the VDP/VCR1 terminals, connect the recording VCR's video input terminals here.

⑨ VCR2 AUDIO OUTPUT jacks

Connect to the audio input terminals of a recording VCR when performing copying.

NOTE:
When connecting a stereo video component, be sure to connect the left and right channels correctly. When connecting a monaural video component, always connect to the "L" (MONO) side.

⑩ VCR2 VIDEO INPUT jack

When playing back the video image from a VCR used for copying, connect its video output terminals here.

⑪ VCR2 AUDIO INPUT jacks

When playing back the audio channel from a VCR used for copying, connect its audio output terminals here.

NOTE:
When connecting a stereo video component, be sure to connect the left and right channels correctly. When connecting a monaural video component, always connect to the "L" (MONO) side.

⑫ MONITOR TV VIDEO OUTPUT jack

Connect to the video input terminals of a monitor television.

⑬ MONO/STEREO selector switch

Set in accordance with the type of audio of the VCR connected to the VCR2 terminals.

- **(Released):** When a monaural VCR is connected (connect the audio pin-plug to the L channel only).
- **(Depressed):** When a stereo VCR is connected.

⑭ SPEAKER terminals

A: Connect to a first set of speakers (rated impedance 6—16 ohms).

B: Connect to a second set of speakers (rated impedance 6—16 ohms).

⑮ Power cord

⑯ AC OUTLETS

(SWITCHED)

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

(UNSWITCHED)

Power flows continually to this outlet, regardless of whether the receiver's POWER switch is ON or OFF. Electrical power consumption of the connected equipment should not exceed 100 W.

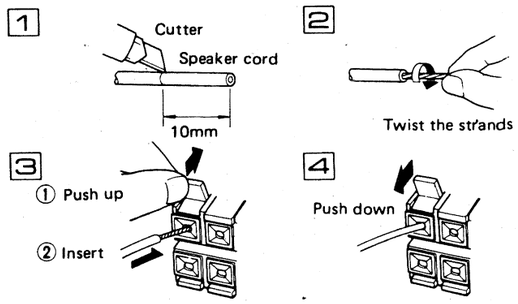
The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS, in order to avoid overheating or fire risk.
This can cause the receiver to malfunction.

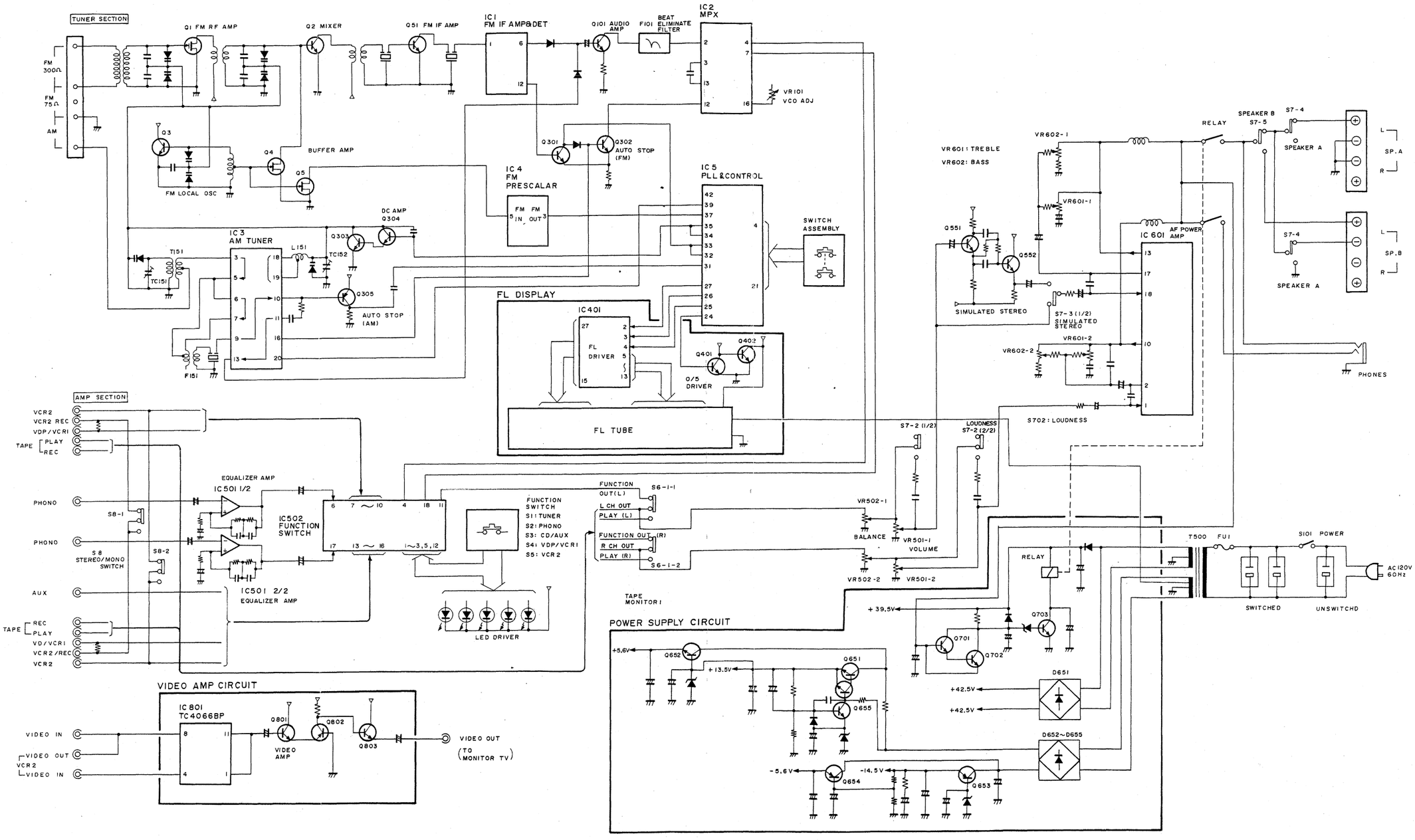
PROCESSING AND CONNECTING THE SPEAKER CORDS

1. Cut off the covering of the speaker cords as shown in figure.
2. Twist them with your thumb and forefinger, otherwise some of the strands may come into contact with other terminals and cords, and cause a short circuit.
3. Push up the minus lever of the speaker terminals with your finger and insert the minus speaker lead into the hole.
   The lead is locked into position when the lever is push down. Check that the lead is connected firmly.
4. In the same way, connect the plus speaker lead to the plus terminal.
5. Check that the core wires of the speaker cords are not projecting from the terminals. If they should project and come into contact, this will give rise to a short-circuit.

Speaker lead wire preparation and connection



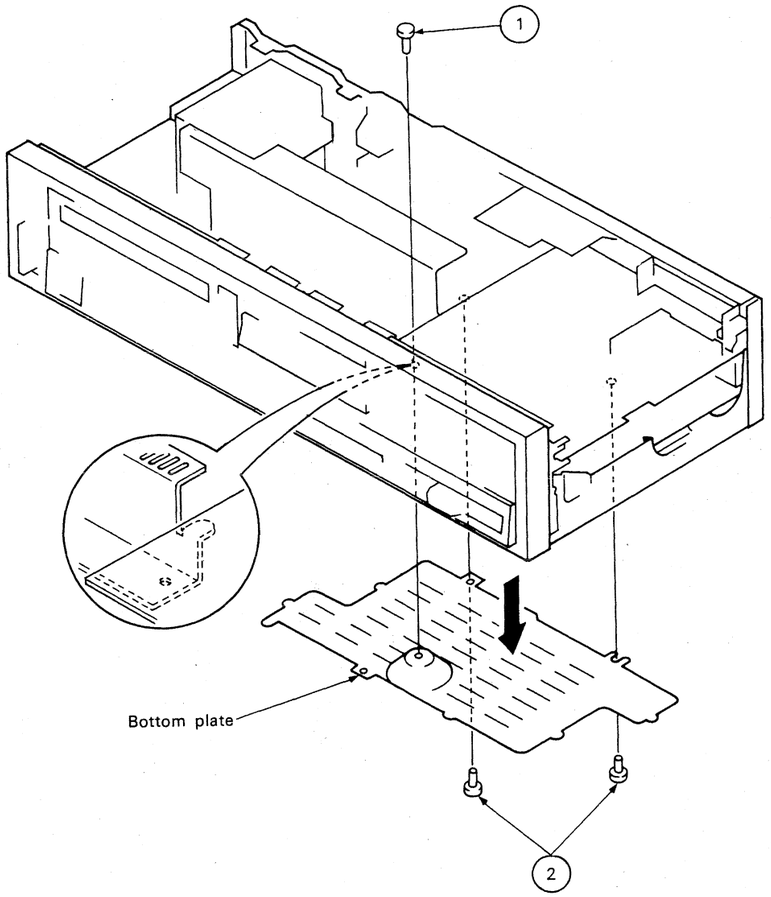
6. BLOCK DIAGRAM



7. DISASSEMBLY

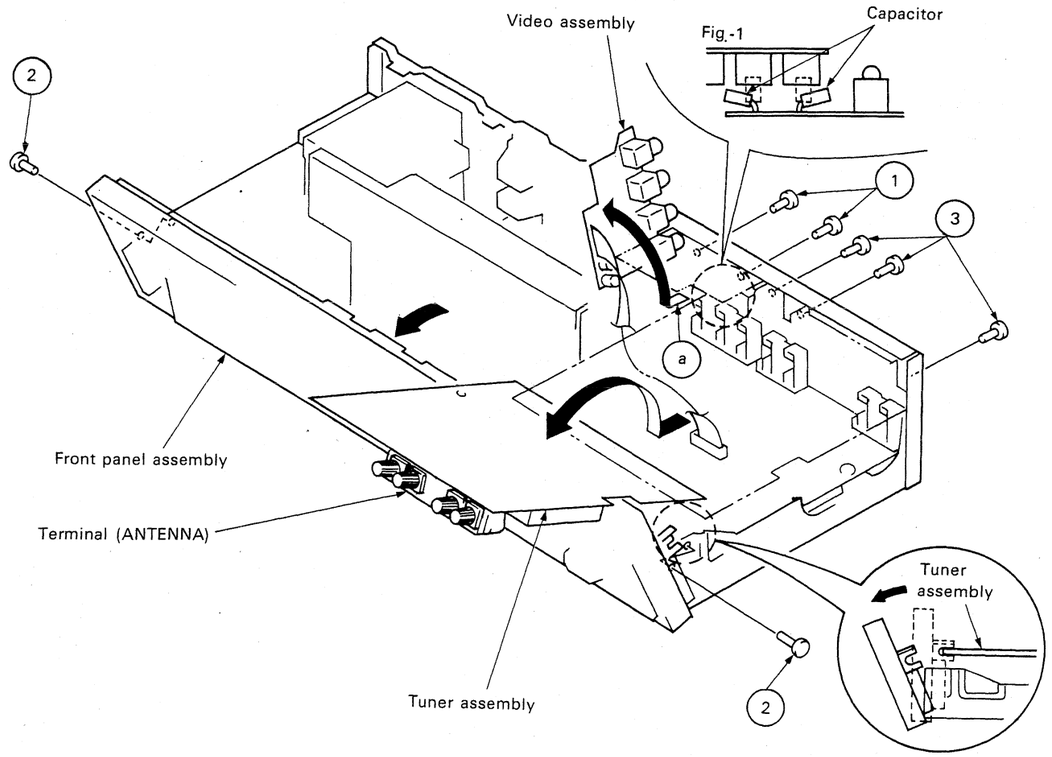
■ **How to Remove Bottom Plate**

1. Remove screw ①.
2. Remove two screws of ② and remove the bottom plate in the direction of arrow.



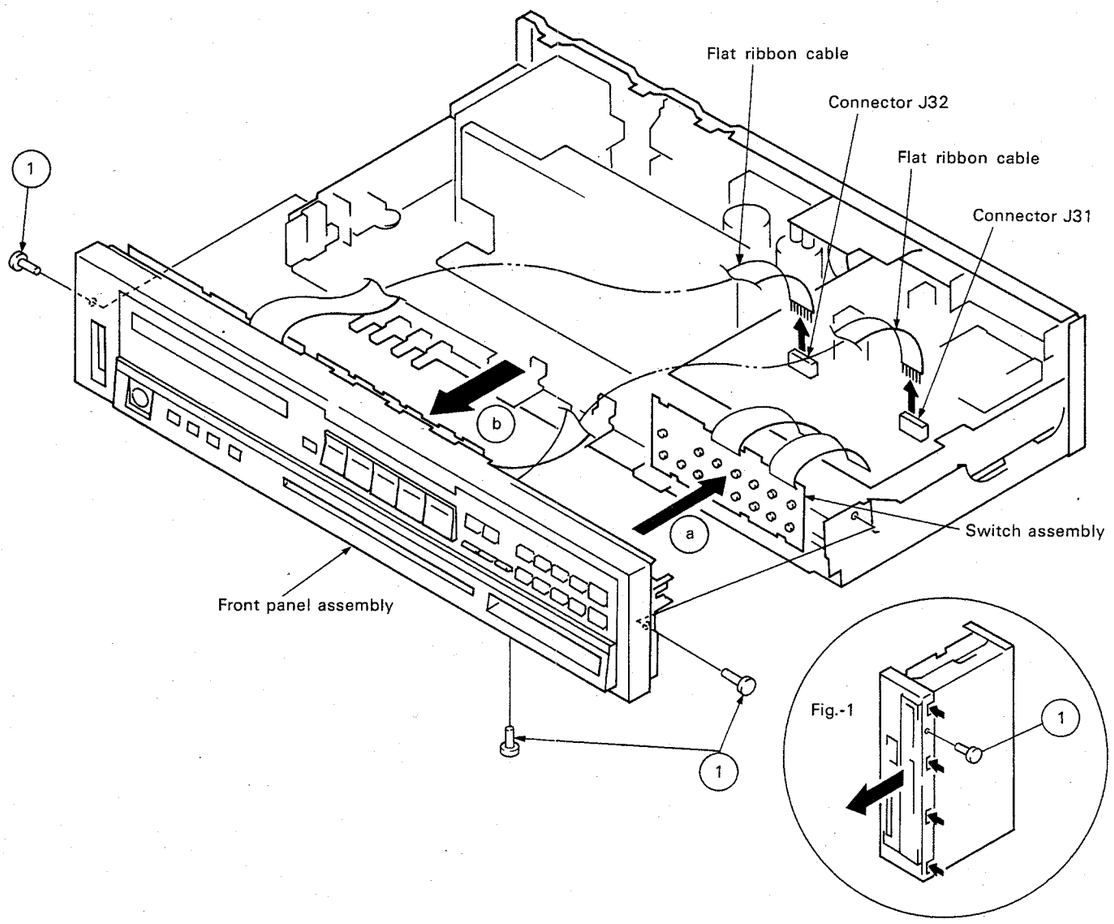
■ **Removing Method of Tuner Assembly**

1. Remove 2 screws of screw ①.
2. Remove the Video assembly in the direction of arrow ⓐ.
   (The capacitor should be tilted beforehand as shown in Fig.-1.)
3. Remove 2 screws of screw ②, and tilt the Front panel assembly in the direction of arrow.
4. Remove 3 screws of screw ③.
5. Remove the Tuner assembly in the direction of arrow. (Remove it from the Terminal (ANTENNA))



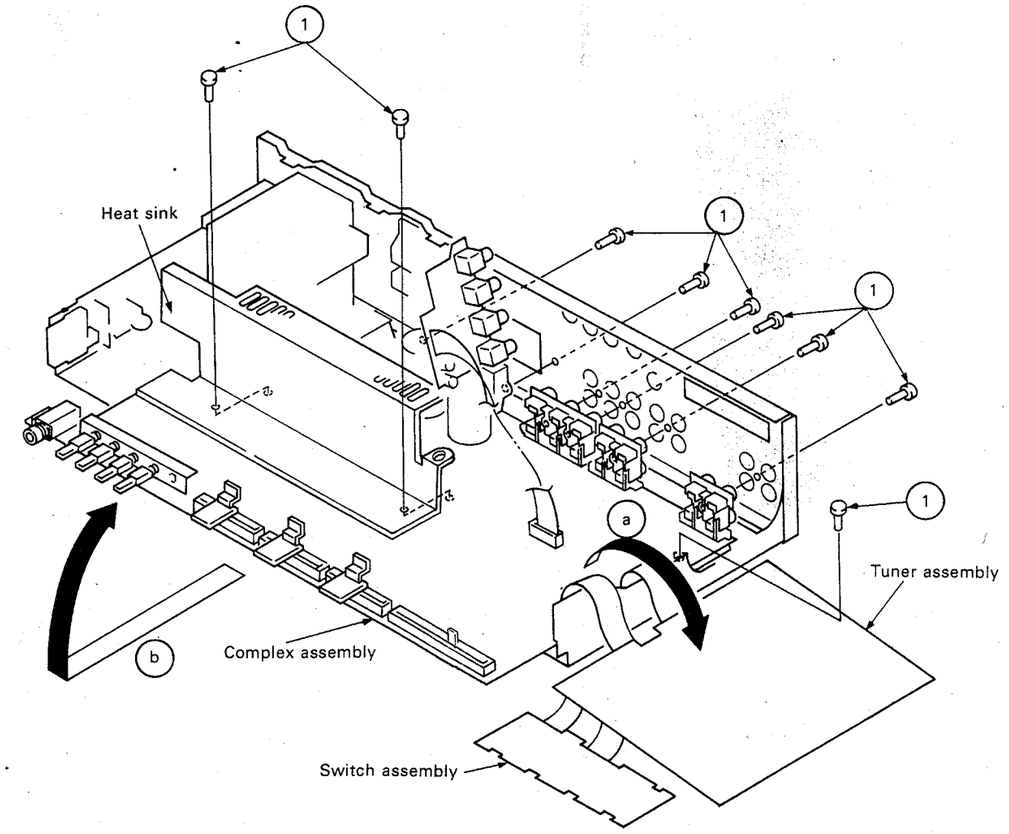
■ Removing Method of Complex Assembly (1)

1. Remove Connectors J31 and J32.
2. Remove the Switch assembly in the direction of arrow ⓐ.
3. Remove 3 screws of screw ① and remove the Front panel assembly in the direction of arrow ⓑ.
   (Remove them by pushing the four claws as shown in Fig.-1.)



■ Removing Method of Complex Assembly (2)

1. Remove the Tuner assembly (in the same manner as mentioned above), and bring it down together with the Switch assembly in the direction of arrow ⓐ.
2. Remove 9 screws of screw ①, and remove the Complex assembly in the direction of arrow ⓑ.
   (Do not remove it by holding up the heat sink.)

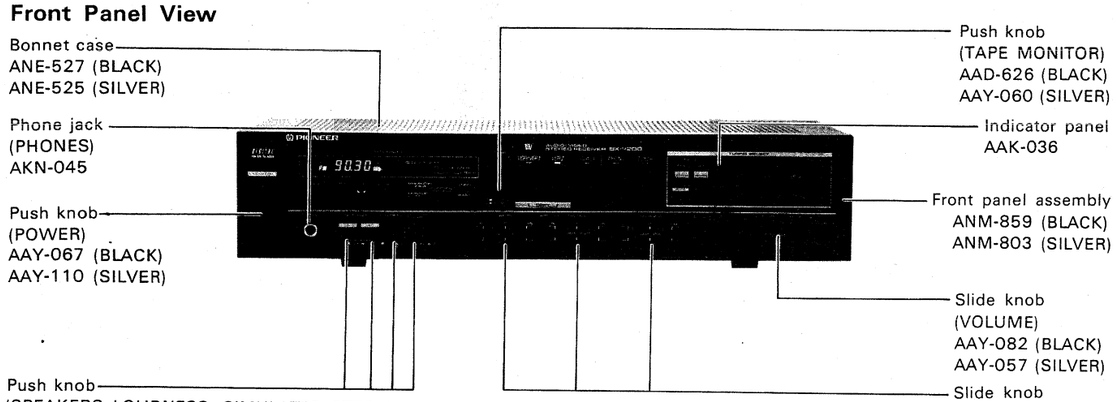


8. PARTS LOCATION

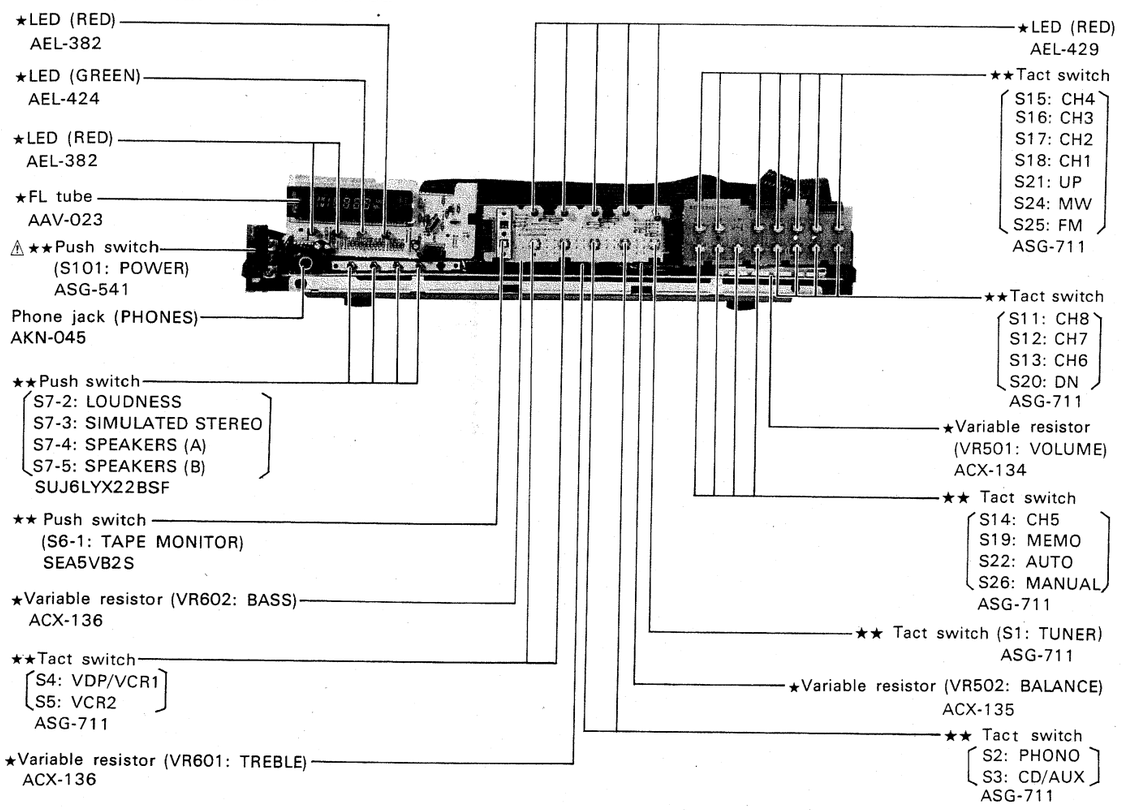
NOTES:

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★ .*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

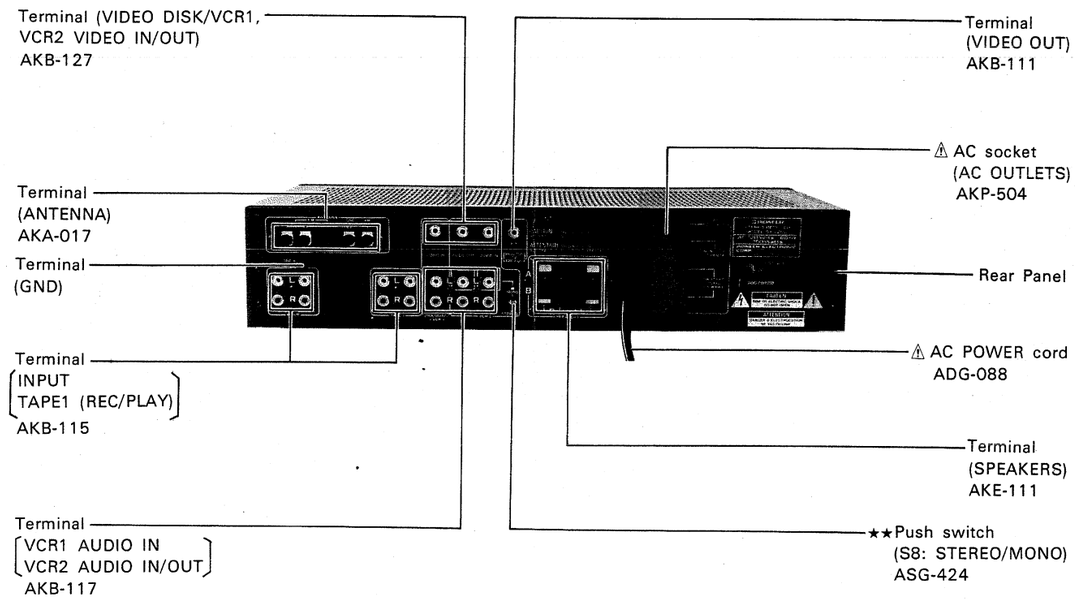
Front Panel View



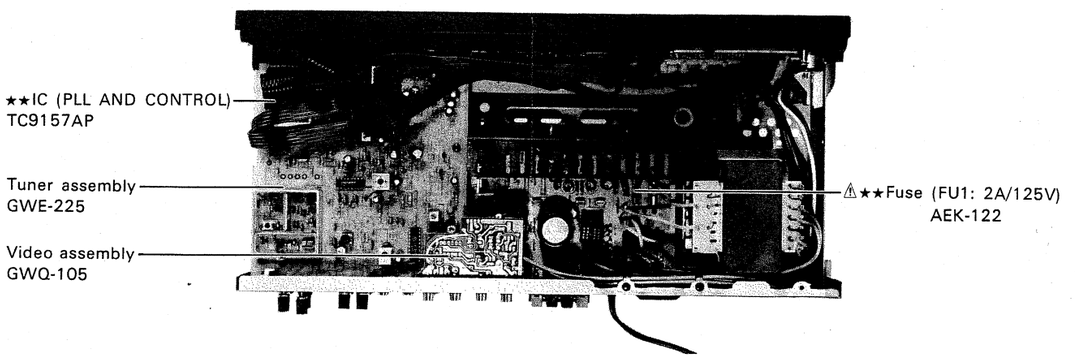
Front View with Panel Removed

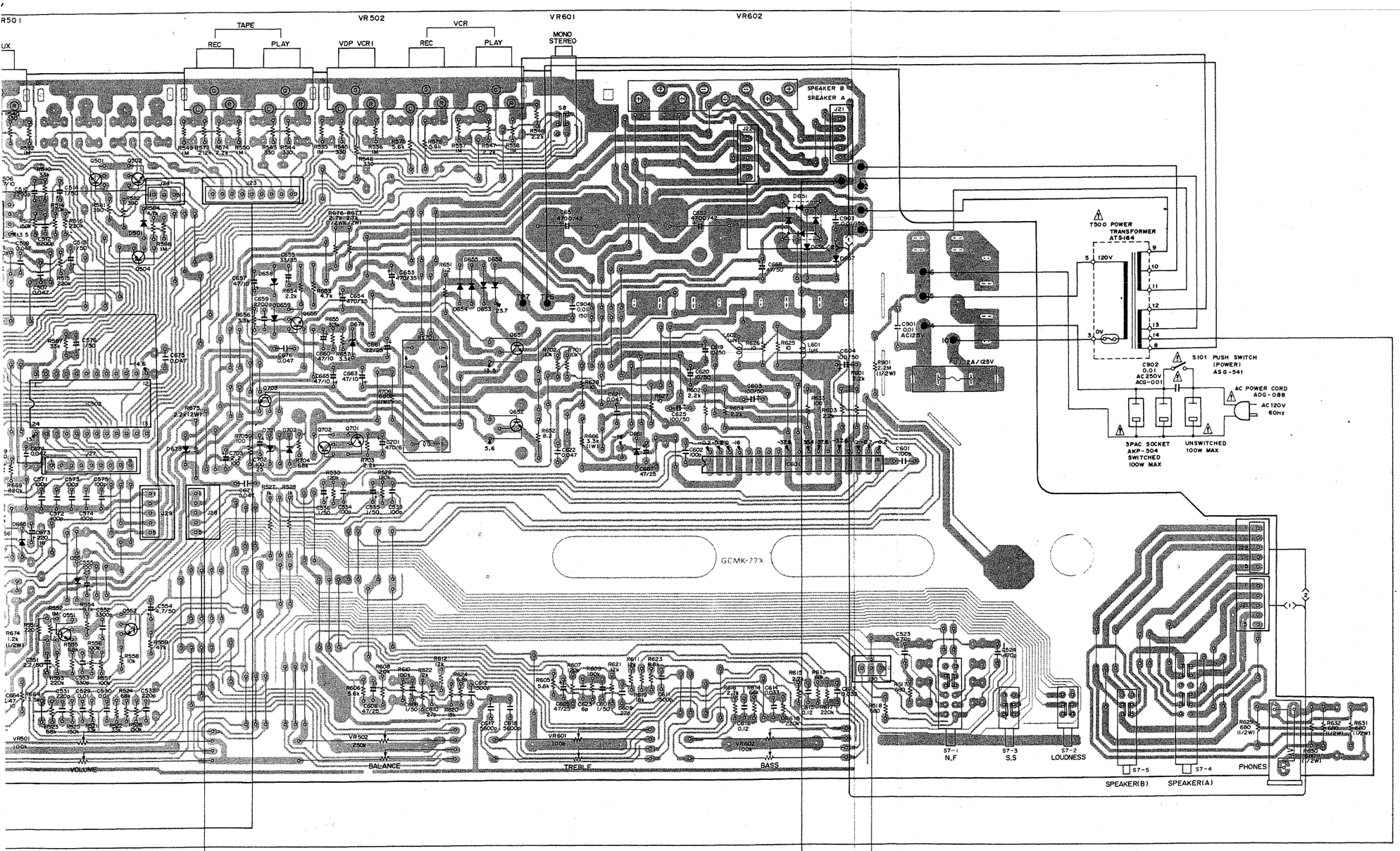


Rear Panel View

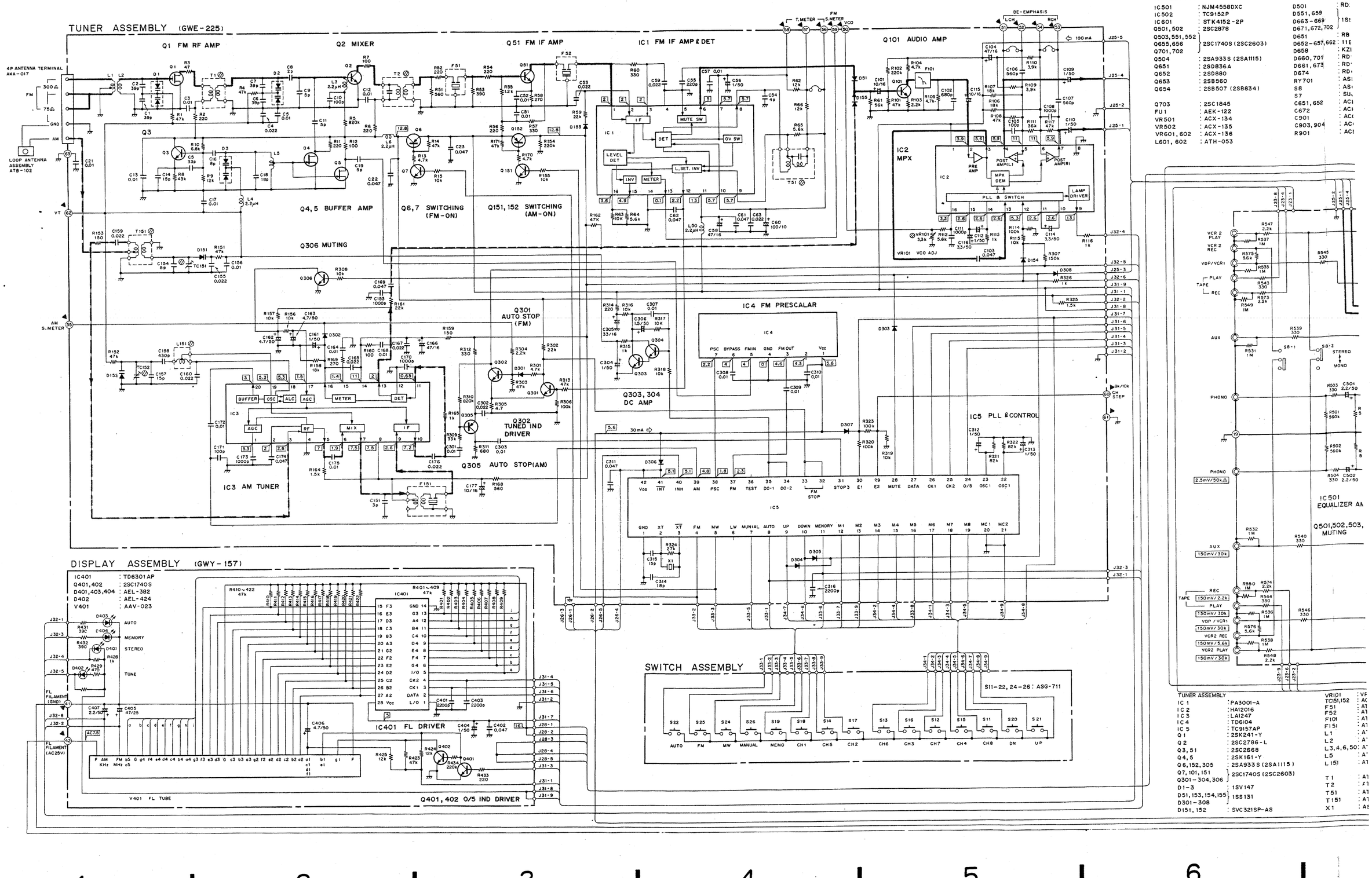


Top View




TAPE
REC
PLAY
VDP VCR1
VCR
REC
PLAY
MONO STEREO
VR502
VR601
VR602
SPEAKER B
SPEAKER A
T500 POWER TRANSFORMER ATS-164
120V
0V
S101 PUSH SWITCH (POWER) ASG-541
C902 0.01 AC250V ACG-001
AC POWER CORD ADG-088
AC120V 60Hz
3PAC SOCKET AKP-504 SWITCHED 100W MAX
UNSWITCHED 100W MAX
FUSE 2A/125V
GCMK-77x
VOLUME
BALANCE
TREBLE
BASS
S7-1 N.F
S7-3 S.S
S7-2 LOUDNESS
S7-5
S7-4
SPEAKER(B)
SPEAKER(A)
PHONES

12. SCHEMATIC DIAGRAM



COMPLEX ASSEMBLY

IC501	: NJM4558DXC
IC502	: TC9152P
IC601	: STK4152-2P
Q501,502	: 2SC2878
Q503,551,552 Q655,656 Q701,702	: 2SC1740S(2SC2603)
Q504	: 2SA933S(2SA1115)
Q651	: 2SD836A
Q652	: 2SD880
Q653	: 2SB560
Q654	: 2SB507(2SB834)
Q703	: 2SC1845
FU1	: AEK-122
VR501	: ACX-134
VR502	: ACX-135
VR601,602	: ACX-136
L601,602	: ATH-053
D501	: RD
D551,659 D663-669	: 1S
D671,672,702	:
D651	: RB
D652-657,662	: 11E
D658	: KZ
D660,701	: RD
D661,673	: RD
D674	: RD
RY701	: AS
S8	: AS
S7	: SU
C651,652	: AC
C672	: AC
C901	: AC
C903,904	: AC
R901	: AC

TUNER ASSEMBLY

IC1	: PA3001-A
IC2	: HA12016
IC3	: LA1247
IC4	: TD6104
IC5	: TC9157AP
Q1	: 2SK241-Y
Q2	: 2SC2786-L
Q3,51	: 2SC2668
Q4,5	: 2SK161-Y
Q6,152,305	: 2SA933S(2SA1115)
Q7,101,151 Q301-304,306	: 2SC1740S(2SC2603)
D1-3	: 1SV147
D51,153,154,155 D301-308	: 1SS131
D151,152	: SVC321SP-AS
VR101	: VR
TC151,152	: AC
F51	: A1
F52	: A1
F101	: A1
F151	: A1
L1	: A-
L2	: A-
L3,4,6,50	: A-
L5	: A-
L151	: A1
T1	: A1
T2	: A1
T51	: A1
T151	: A1
X1	: AS

7 8 9 10 11 12

COMPLEX ASSEMBLY (GWM-374)

D501	: RD22EB(HZ22EB)
D551,659 / D663-669 / D671,672,702	: 1SS131
D651	: RB402
D652-657,662	: 11E2(S5566)
D658	: KZL061
D660,701	: RD15EB(HZ15EB)
D661,673	: RD16EB(HZ16EB)
D674	: RD6.2EB
RY701	: ASR-111
S8	: ASG-424
S7	: SUJ6LYX22BSF
C651,652	: ACH-282
C672	: ACH-902
C901	: ACG-502
C903,904	: ACG-019
R901	: ACN-140

IC601 AF POWER AMP

Q551, 552 SIMULATED STEREO

IC501 EQUALIZER AMP

Q501,502,503,504 MUTING

IC502 FUNCTION SWITCH

VR501 VOLUME ADJ

VR502 BALANCE ADJ

VR601 TREBLE

VR602 BASS ADJ

Q701-703 PROTECTION

Q651, 652, 655 REGULATOR

Q653, 654 REGULATOR

HEADPHONE JACK AKN-045

PHONES 67mV/8Ω

SPEAKER A

SPEAKER B

8P SPEAKER TERMINAL AEK-111

T500 POWER TRANSFORMER ATS-164

S101 PUSH SWITCH (POWER) (ASG-541)

AC POWER CORD ADG-088

AC120V 60Hz

3PAC SOCKET AKP-504 SWITCHED 100W MAX

UNSWICHED 100W MAX

FUNCTION SWITCH ASSEMBLY

VR101	: VRTB6VS332
T051,152	: ACM-015
F51	: ATF-119
F52	: ATF-107
F101	: ATF-146
F151	: ATF-133
L1	: ATC-192
L2	: ATC-193
L3,4,6,50	: ATH-049
L5	: ATC-214
L151	: ATB-100
T1	: ATC-194
T2	: ATE-063
T51	: ATE-052
T151	: ATB-099
X1	: ASS-025

D851-855 : AEL-429
D856-860 : 1SS131
S1-5 : ASG-711
S6 : SEA5VB2S

VIDEO ASSEMBLY (GWQ-105)

IC801 : TC4066BP
Q801-803 : 2SC1740S (2SC2603)
L801, 802 : ATH-050

IC801 VIDEO AMP

Q801-803 VIDEO AMP

1. RESISTORS:
   Indicated in Ω, 1/4W, 1/8W, ±5% tolerance unless otherwise noted k: kΩ, M: MΩ, (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p: pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   V: Signal voltage at 30W + 30W, 8Ω output (1 kHz)
   : DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power.
   ⇦ mA: DC current at no input signal
   mV: Signal voltage at FM 1kHz ± 75 kHz DEV.
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts unmbers.
   The underlined indicates the switch position.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES:

(AMP SECTION)	
S1: FUNCTION (TUNER)	NORMAL OFF
S2: FUNCTION (PHONO)	NORMAL OFF
S3: FUNCTION (CD/AUX)	NORMAL OFF
S4: FUNCTION (VDP/VCR1)	NORMAL OFF
S5: FUNCTION (VCR2)	NORMAL OFF
S6-1: TAPE MONITOR 1	ON—OFF
S7-2: LOUDNESS	ON—OFF
S7-3: SIMULATED STEREO	ON—OFF
S7-4: SPEAKERS (A)	ON—OFF
S7-5: SPEAKERS (B)	ON—OFF
S8: STEREO/MONO	STEREO—MONO
(TUNER SECTION)	
S11: STATION CALL 8	NORMAL OFF
S12: STATION CALL 7	NORMAL OFF
S13: STATION CALL 6	NORMAL OFF
S14: STATION CALL 5	NORMAL OFF
S15: STATION CALL 4	NORMAL OFF
S16: STATION CALL 3	NORMAL OFF
S17: STATION CALL 2	NORMAL OFF
S18: STATION CALL 1	NORMAL OFF
S19: MEMORY	NORMAL OFF
S20: DOWN	NORMAL OFF
S21: UP	NORMAL OFF
S22: AUTO	NORMAL OFF
S24: AM	NORMAL OFF
S25: FM	NORMAL OFF
S26: MANUAL	NORMAL OFF

THE UNDERLINED INDICATES THE SWITCH POSITION

A B C D

7 8 9 10 11 12

13. ELECTRICAL PARTS LIST

NOTES:

- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
  Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560Ω	*56 × 10¹*	*561*	*RD¼PS* 5 6 1	*J*
47kΩ	*47 × 10³*	*473*	*RD¼PS* 4 7 3	*J*
0.5Ω	*0R5*	.....	*RN2H* 0 R 5	*K*
1Ω	*010*	.....	*RS1P* 0 1 0	*K*

  Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 × 10¹*	*5621*	*RN¼SR* 5 6 2 1	*F*

- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

Miscellaneous Parts

P.C.BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Tuner assembly	GWE-225
	Complex assembly	GWM-374
	Video assembly	GWQ-105
	Display assembly	GWY-157
	Switch assembly	Non supply
	Function switch assembly	Non supply

SWITCH

Mark	Symbol & Description	Part No.
⚠ ★★	S101 Push switch (POWER)	ASG-541 (ASG-539)

COIL AND TRANSFORMER

Mark	Symbol & Description	Part No.
	Loop antenna assembly	ATB-102
⚠ ★	T500 Power transformer (120V)	ATS-164 (ATS-170)

CAPACITOR

Mark	Symbol & Description	Part No.
⚠	C902 Ceramic capacitor (0.01/AC250V)	ACG-001

OTHERS

Mark	Symbol & Description	Part No.
⚠	AC socket (AC OUTLETS)	AKP-504
⚠ ★★	FU1 Fuse (2A/125V)	AEK-122
⚠	AC Power cord	ADG-088

Complex Assembly (GWM-374)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC601	STK4152-2P
★★	IC502	TC9152P
★★	Q501, Q502	2SC2878
★★	Q503, Q551, Q552, Q655, Q701, Q702	2SC1740S (2SC2603)
★★	Q504	2SA933S (2SA1115)
★★	Q651	2SD836A
★★	Q652	2SD880
★★	Q653	2SB560
★★	Q654	2SB507 (2SB834)
★★	Q703	2SC1845
★	D501	RD22EB (HZ22EB)
★	D551, D659, D663 — D669, D671, D672, D702	1SS131
★	D651	RB402
★	D652 — D657, D662	11E2 (S5566)
★	D658	KZL061
★	D660, D701	RD15EB (HZ15EB)
★	D661, D673	RD16EB (HZ16EB)
★	D674	RD6.2EB

SWITCHES AND RELAY

Mark	Symbol & Description	Part No.
★★	S7 Push switch (LOUDNESS / SIMULATED STEREO / SPEAKERS(A) / SPEAKERS(B))	SUJ6LYX22BSF
★★	S8 Push switch (STEREO/MONO)	ASG-424
★★	RY701 Relay	ASR-111

COILS AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L601, L602 AF choke coil (1μH)	ATH-053

CAPACITORS

Mark	Symbol & Description	Part No.
⚠	C901 (0.01/AC125V)	ACG-502
	C903, C904 (0.01/150V)	ACG-019
	C651, C652 (4700/42V)	ACH-282
	C672 (47000/5.5V)	ACH-902
	C533, C534, C571 — C575, C601, C602	CCDSL101J50
	C503, C504, C531, C532	CCDSL221J50
	C609, C610	CCDSL270J50
	C551, C501, C502	CEANL2R2M50
	C554	CEANL4R7M50
	C670	CEAR47M50L
	C577	CEAR68M50L
	C576, C669, C513, C514, C535, C607, C608	CEA010M50L
	C619, C620	CEA100M50L
	C555, C702	CEA101M25L
	C603, C604, C625	CEA101M50L
	C703	CEA2R2M100L
	C661, C662	CEA220M25L
	C673	CEA221M16L
	C655, C656	CEA330M35L
	C505, C506, C657, C660, C663 — C666	CEA470M10L
	C605, C606, C658, C667	CEA470M25L
	C668	CEA470M50L
	C653, C654	CEA471M35L
	C701	CEA471M6L
	C659	CKDYB222K50
	C553	CKDYB331K50
	C523, C524	CKDYB471K50
	C529, C530	CKDYF103Z50
	C507, C508, C671, C674 — C676	CKDYX473M25
	C615, C616	CQMA124J50
	C611, C612	CQMA152J50
	C537, C538	CQMA102J50
	C509, C510	CQMA222J50
	C552	CQMA332J50
	C613, C614	CQMA333J50
	C621, C622	CQMA473K50
	C617, C618	CQMA562J50
	C511, C512	CQMA822J50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R901 Corbon composition (2.2M 1/2W)	ACN-140
★	VR501 Variable resistor 100k (VOLUME)	ACX-134
★	VR502 Variable resistor 250k (BALANCE)	ACX-135
★	VR601, VR602 Variable resistor 100k (TREBLE, BASS)	ACX-136
	R629 — R632, R676, R677, R674	RD1/2PM□□□J
	R625 — R628, R633, R651, R652, R661, R662	RD1/4PMF□□□J
	R601 — R604, R653, R654, R660	RD1/4PM□□□J
⚠	R666, R706	RS1PMF□□□J
⚠	R675	RS2LMF152J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (INPUT, TAPE 1, TAPE 2, ADAPTOR)	AKB-115
	Terminal (AUDIO IN/OUT)	AKB-117
	Terminal (SPEAKERS)	AKE-111
	Phone jack (PHONES)	AKN-045
	Screw	ABA-271
	Plastic rivet	AEP-230
	Screw	PBZ30P60FMC
	Screw	PMZ20P30FMC

Video Assembly (GWQ-105)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC801	TC4066BP
★★	Q801 — Q803	2SC1740S (2SC2603)

COIL AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L801, L802 Inductor	ATH-050

CAPACITORS

Mark	Symbol & Description	Part No.
	C801	CCDSL330J50
	C802, C808	CEA470M10L
	C803	CEA471M6L
	C804, C805	CEJA101M10
	C806, C807	CKDYX473M25

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R814	RD1/2PM391J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (VIDEO OUT)	AKB-111
	Terminal (VIDEO DISC/VCR1, VCR 2 VIDEO IN/OUT)	AKB-127

Display Assembly (GWY-157)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC401	TD6301AP
★★	Q401, Q402	2SC1740S
★	D401, D403, D404	AEL-382
★	D402	AEL-424

CAPACITORS

Mark	Symbol & Description	Part No.
	C404	CEA010M50L
	C407	CEA2R2M50L
	C406	CEA4R7M50L
	C405	CEA470M25L
	C401, C403	CKDYB222K50
	C402	CKDYX473M25

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	All resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	V401 FL tube	AAV-023

Function Switch Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D851 — D855	AEL-429
★	D856 — D860	1SS131

SWITCHES

Mark	Symbol & Description	Part No.
★★	S1 — S5 Tact switch (TUNER, PHONO, CD/AUX, VDP/VCR1, VCR2)	ASG-711
★★	S6 Push switch (TAPE MONITOR)	SEA5VB2S

CAPACITOR

Mark	Symbol & Description	Part No.
	C851	CKDYX473M25

Tuner Assembly (GWE-225)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC2	HA12016
★★	IC3	LA1247
★★	IC1	PA3001-A
★★	IC5	TC9157AP
★★	IC4	TD6104P
★★	Q6, Q152, Q305	2SA933S (2SA1115)
★★	Q7, Q101, Q151, Q306, Q301 — Q304	2SC1740S (2SC2603)
★★	Q3, Q51	2SC2668
★★	Q2	2SC2786-L
★★	Q4, Q5	2SK161-Y
★★	Q1	2SK241-Y
★	D151, D152	SVC321SP-AS
★	D51, D153 — D155, D301 — D308	1SS131
★	D1 — D3	1SV147

COILS, FILTERS AND TRANSFORMERS

Mark	Symbol & Description	Part No.
	L151 AM oscillator coil	ATB-100
	L 1 FM antenna coil	ATC-192
	L 2 FM antenna coil	ATC-193
	L 5 FM oscillator coil	ATC-214
	L3, L4, L6, L50 Inductor	ATH-049
	F 52 FM Ceramic filter	ATF-107
	F 51 FM Ceramic filter	ATF-119
	F151 AM Ceramic filter	ATF-133
	F101 Beat eliminate filter	ATF-146
	T151 AM antenna transformer	ATB-099
	T1 FM RF transformer	ATC-194
	T51 FM detector transformer	ATE-052
	T2 FM coupling transformer	ATE-063

CAPACITOR

Mark	Symbol & Description	Part No.
	TC151, TC152	ACM-015
	C54	CCDCH040C50
	C16, C154	CCDCH080D50
	C14, C157, C315	CCDCH150J50
	C314	CCDCH180J50
	C15	CCDCH330J50
	C 1, C 2, C 6, C 7	CCDRH390J50
	C 8	CCDSL020C50
	C151	CCDSL030C50
	C 9, C11, C19	CCDSL050C50
	C10, C171	CCDSL101J50
	C55	CCDSL221J50
	C18	CCDTH180J50
	C58, C104, C166	CEAS470M16
	C60	CEJA101M10
	C56, C109, C110, C112, C161, C304, C312, C313	CEA010M50L
	C306	CEA1R5M50L
	C101, C115, C177	CEA100M16L
	C113, C114	CEA3R3M50L
	C305	CEA330M16L
	C162, C163	CEA4R7M50L
	C105, C108, C153, C170, C173	CKDYB102K50
	C316	CKDYB222K50
	C106, C107	CKDYB561K50
	C102	CKDYB681K50
	C 3, C 5, C12, C13, C17, C21, C51, C52, C57, C158, C164, C168, C175, C301, C303, C307 — C310	CKDYF103Z50
	C4, C53, C59, C63, C155, C159, C160, C165, C167, C176, C302	CKDYF223Z50
	C61, C62, C103, C169, C174, C311, C22, C23	CKDYX473M25
	C172	CKPYX103N25
	C111	CQSA102J50
	C158	CQSA431J50

RESISTORS

NOTE: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR101 Semi-fixed (3.3k)	VRTB6VS332
	R159, R168	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (ANTENNA)	AKA-017
★	X1 Crystal resonator	ASS-025

Switch Assembly

SWITCHES

Mark	Symbol & Description	Part No.
★★	S11 — S22, S24 — S26 Tact switch	ASG-711

14. ADJUSTMENTS

FM Tuner Section

- Connect the FM signal generator (FM SG) to the FM ANTENNA 300Ω terminal through a 300Ω dummy antenna.
- Set the AUTO/MANUAL switch to the MANUAL position and the FUNCTION switch to the FM.

Step	FM SG (1 kHz±75 kHz dev.)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	No signal		87.5 MHz	—	Check pin 62 (3.4±1.5V) of tuner assembly.
2			108.0 MHz		Check pin 62 ($8.7^{+2.5}_{-2.0}$V) of tuner assembly.
3	98 MHz	60 dB	98 MHz	T1, T2	Set the output from pin 59 of tuner assembly to maximum level.
4	98 MHz	60 dB	98 MHz	T51	Adjust voltage across pins 56 and 58 of tuner assembly to T meter center.
5	98 MHz No modulation	80 dB	98 MHz	VR101	Adjust the frequency at pin 50 of tuner assembly to 75.8 kHz (±100Hz)
6	98 MHz Stereo modulation*	60 dB	98 MHz	T2	Minimize distortion in both left and right channel outputs (adjust T2 to within ±90°)
7	When lighting up level of the STEREO IND or TUNED IND is more than 40 dB, cut off R63 and be oure to confirm that the level showes, be within the reference value at this point.				
	* Stereo modulation: Main 1 kHz L+R ±68.25 kHz dev. Pilot 19 kHz±6.75 kHz dev.				

AM (MW) Tuner Section

- Connect loop antenna to the AM signal generator (AM SG), and connect the Loop antenna (of the set) to AM ANTENNA terminal.
- Set the FUNCTION switch to the AM (MW) .

Step	AM SG (400Hz, 30% MOD)		Frequency display	Adjustment pint	Adjustment procedure
	Frequency	Level			
1	No signal		531 kHz	L151	Set pin 62 of tuner assembly to 1.3V (±0.1V)
2			1602 kHz	TC152	Set pin 62 of tuner assembly to 10.0V (±0.3V)
3	Repeat steps 1 and 2 until both specification ratings are satisfied.				
4	603 kHz	60 dB	603 kHz	T151	Set the output from pin 55 of tuner assebly to maximum level.
5	1395 kHz	60 dB	1395 kHz	TC151	
6	Repeat steps 4 and 5 until both specification ratings are satisfied.				
7	Be sure to confirm the TUNING IND is lit.				

AM (LW) Tuner Section

- Connect loop antenna to the AM signal generator (AM SG), and connect the Loop ANTENNA (of the set) to AM ANTENNA terminal.
- Set the FUNCTION switch to the AM (LW).

Step	AM SG (400Hz, 30% MOD)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	No signal		281 kHz	L253	Set pin 62 of tuner assembly to 5.2V (±0.1V)
2	164 kHz	60 dB	164 kHz	T251	Set the output from pin 55 of tuner assembly to maximam level.
3	254 kHz	60 dB	254 kHz	TC251	
4	Repeat steps 2 and 3 until both specification ratings are satisfied.				

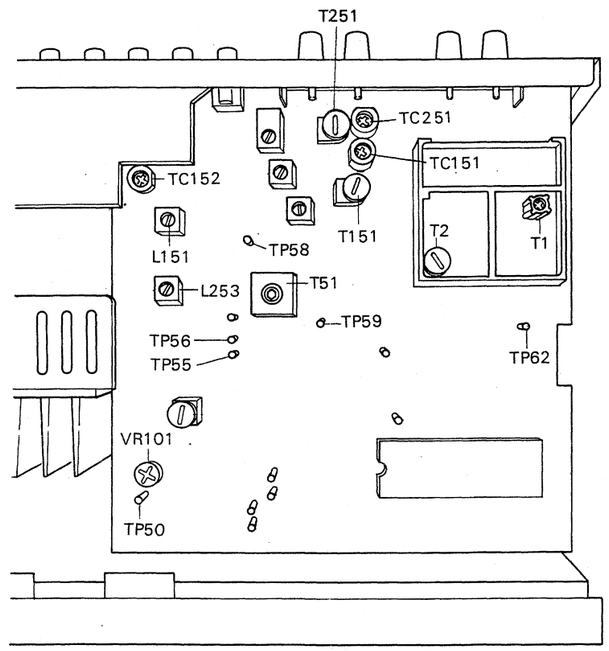


Fig. 14-1. Adjustment points

14. ADJUSTMENTS

FM Tuner Section

- Connect the FM signal generator (FM SG) to the FM ANTENNA 300Ω terminal through a 300Ω dummy antenna.
- Set the AUTO/MANUAL switch to the MANUAL position and the FUNCTION switch to the FM.

Step	FM SG (1 kHz±75 kHz dev.)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	No signal		87.5 MHz	—	Check pin 62 (3.4±1.5V) of tuner assembly.
2			108.0 MHz		Check pin 62 ($8.7^{+2.5}_{-2.0}$V) of tuner assembly.
3	98 MHz	60 dB	98 MHz	T1, T2	Set the output from pin 59 of tuner assembly to maximum level.
4	98 MHz	60 dB	98 MHz	T51	Adjust voltage across pins 56 and 58 of tuner assembly to T meter center.
5	98 MHz	80 dB	98 MHz	VR101	Adjust the frequency at pin 50 of tuner assembly to 75.8 kHz (±100Hz)
	No modulation				
6	98 MHz	60 dB	98 MHz	T2	Minimize distortion in both left and right channel outputs (adjust T2 to within ±90°)
	Stereo modulation*				
7	When lighting up level of the STEREO IND or TUNED IND is more than 40 dB, cut off R63 and be oure to confirm that the level showes, be within the reference value at this point.				
	* Stereo modulation: Main 1 kHz L+R ±68.25 kHz dev. Pilot 19 kHz±6.75 kHz dev.				

AM (MW) Tuner Section

- Connect loop antenna to the AM signal generator (AM SG), and connect the Loop antenna (of the set) to AM ANTENNA terminal.
- Set the FUNCTION switch to the AM (MW) .

Step	AM SG (400Hz, 30% MOD)		Frequency display	Adjustment pint	Adjustment procedure
	Frequency	Level			
1	No signal		531 kHz	L151	Set pin 62 of tuner assembly to 1.3V (±0.1V)
2			1602 kHz	TC152	Set pin 62 of tuner assembly to 10.0V (±0.3V)
3	Repeat steps 1 and 2 until both specification ratings are satisfied.				
4	603 kHz	60 dB	603 kHz	T151	Set the output from pin 55 of tuner assebly to maximum level.
5	1395 kHz	60 dB	1395 kHz	TC151	
6	Repeat steps 4 and 5 until both specification ratings are satisfied.				
7	Be sure to confirm the TUNING IND is lit.				

AM (LW) Tuner Section

- Connect loop antenna to the AM signal generator (AM SG), and connect the Loop ANTENNA (of the set) to AM ANTENNA terminal.
- Set the FUNCTION switch to the AM (LW).

Step	AM SG (400Hz, 30% MOD)		Frequency display	Adjustment point	Adjustment procedure
	Frequency	Level			
1	No signal		281 kHz	L253	Set pin 62 of tuner assembly to 5.2V (±0.1V)
2	164 kHz	60 dB	164 kHz	T251	Set the output from pin 55 of tuner assembly to maximam level.
3	254 kHz	60 dB	254 kHz	TC251	
4	Repeat steps 2 and 3 until both specification ratings are satisfied.				

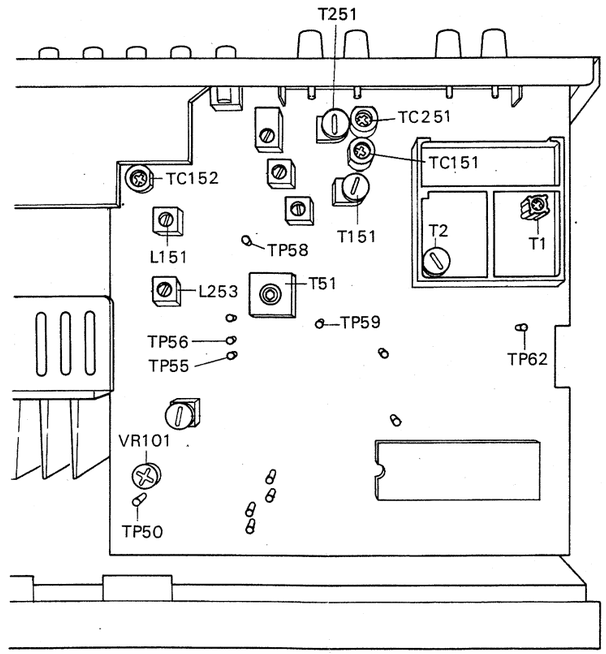


Fig. 14-1. Adjustment points

14. RÉGLAGE

Syntonisateur MF

- Connecter le générateur de signal MF (FM SG) à la borne 300 ohm de l'ANTENNE MF via l'antenne factice ohm.
- Régler le commutateur AUTO/MANUAL sur MANUAL et le commutateur FUNCTION sur MF

Etape	FM SG (1 kHz±75 kHz dev.)		Affichage de fréquence	Point de réglage	Procédé de réglage
	Fréquence	Niveau			
1	Aucun signal		87.5 MHz	—	Vérifier la fiche 62 (3.4±1.5V) de l'ensemble tuner
2			108.0 MHz		Vérifier la fiche 62 ($8.7\ ^{+2.5}_{-2.0}$ V) de l'ensemble tuner
3	98 MHz	60 dB	98 MHz	T1, T2	Régler la sortie de la fiche 59 de l'ens. tuner au niveau max.
4	98 MHz	60 dB	98 MHz	T51	Régler le voltage des fiches 56 à 58 de l'ens. tuner au center T du compteur.
5	98 MHz	80 dB	98 MHz	VR101	Régler la fréquence de la fiche 50 de l'ens. tuner à 75.8 kHz (±100 Hz)
	Aucune modulation				
6	98 MHz	60 dB	98 MHz	T2	Réduire la distortion dans des deux canaux droit et gauche (régler T2 à±90°)
	Modulation stéréo*				
7	Lorsque le niveau d'allumage du STEREO-IND ou TUNED IND est supérieur à 40 dB, couper le R63 et vérifier qu'il est conforme à la norme.				
	* Modulation stéréo: Principal 1 kHz L+G ±68.25 kHz dev. Pilote 19 kHz±6.75 kHz dev.				

Syntonisateur MA/PO

- Conncter l'antenne bouclée au générateur de signal MA (AM SG) et l'ANTENNE BOUCLEE (réglage) à la borne de l' ANTENNE MA.
- Régler le commutateur FUNCTION sur MA/PO.

Etape	AM SG (400 Hz, 30% MOD)		Affichage de fréquence	Point de réglage	Procédé de réglage
	Fréquence	Niveau			
1	Aucun signal		531 kHz	L151	Régler la fiche 62 de l'ens. tuner à 1.3V (±0.1V)
2			1602 kHz	TC152	Régler la fiche 62 de l'ens. tuner à 10.0V (±0.3V)
3	Répéter les étapes 1 à 2 jusqu'à ce que les valeurs obtenues soient conformes aux spécifications				
4	603 kHz	60 dB	603 kHz	T151	Régler is sortie de la fiche 55 de l'ens, tuner au niveau maximal.
5	1395 kHz	60 dB	1395 kHz	TC151	
6	Répéter les étapes 4 et 5 jusqu'à ce que les valeurs obtenues soient conformes aux spécifications.				
7	S'assurer que le TUNING IND est allumé.				

Syntonisateur MA (GO)

- Connecter l'antenne bouclée au générateur de signal MA (AM SG) et l'ANTENNE BOUCLEE (réglage) á la borne de l' ANTENNE MA.
- Régler le commutateur FUNCTION sur MA (GO).

Etape	AM SG (400 Hz, 30% MOD)		Affichage de fréquence	Point de réglage	Procédé de réglage
	Fréquence	Niveau			
1	Aucun signal		281 kHz	L253	Régler la fiche 62 de l'ens, tuner à 5.2V (±0.1V)
2	164 kHz	60 dB	164 kHz	T251	Régler la sortie de la fiche 55 de l'ens. tuner au niveau maximal.
3	254 kHz	60 dB	254 kHz	TC251	
4	Répéter les étapes 2 à 3 jusqu'à ce que les valeurs obtenues soient conformes aux spécifications.				

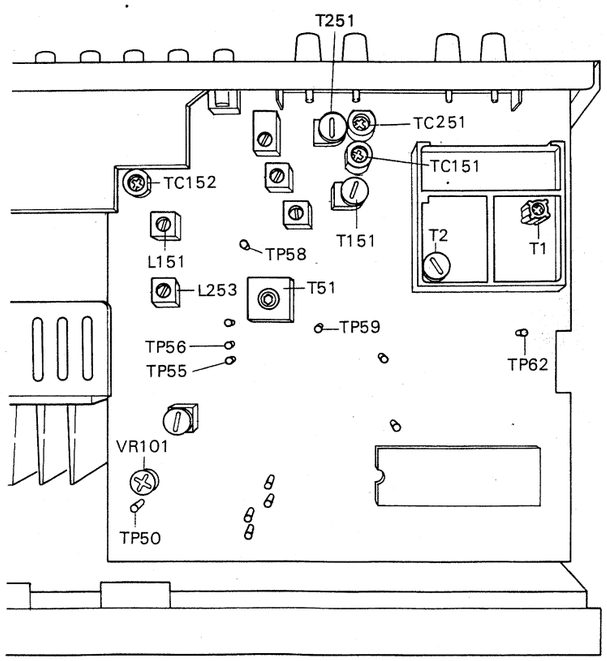


Fig. 14-1. Points de réglage

14. AJUSTE

Sécción del sintonizador de FM

- Conecte el generador de señal de FM (FM SG) a la terminal de la ANTENA de 300 a través de la antena ficticia de 300.
- Fije ef interruptor AUTO/MANUAL a la posición MANUAL y el interruptor de FUNCTION a FM.

Paso	FM SG (1 kHz±75 kHz dev.)		Indicación de frecuencia	Punto de ajuste	Procedimiento de ajuste
	Frecuencia	Nivel			
1	Sin señal		87.5 MHz	—	Patilla de inspección 62 (3.4±1.50) de conjunto del sintonizador
2			108.0 MHz		Patilla de inspección 62 ($8.7\ ^{+2.5}_{-2.0}$ V) del montaje del sintonizador
3	98 MHz	60 dB	98 MHz	T1, T2	Fije la salida de la patilla 59 del montaje del sintonizador a su máximo nivel.
4	98 MHz	60 dB	98 MHz	T51	Ajuste el voltaje a través de la patilla 56 y 58 del montaje del sintonizador al centro del medidor T.
5	98 MHz	80 dB	98 MHz	VR101	Ajuste la frecuencia en la patilla 50 del montaje del sintonizador a 78.8 kHz (±100 Hz)
	Sin modulación				
6	98 MHz	60 dB	98 MHz	T2	Minimize la distorción en la salida del canal derecho y la del izquierdo (ajuste T2 dentro de ±90°)
	Modulación estereo*				
7	Cuando se enciende el indicador de nivel del IND ESTEREO o el IND TUNED significa que está a más de 40 dB, corte R63 y cerciórese de confirmar que el nivel deba estar dentro del valor de referencia en este punto.				
* Modulación estereo: Principal 1 kHz D+I±68.25 kHz Piloto desv. 19 kHz±6.75 kHz desv.					

Sécción del sintonizador de AM/MW

- Conecte la antena de cuadro al generador de señal de AM (AM SG), y conecte la ANTENA de cuadro (del aparato) a la terminal de la ANTENA de AM.
- Fije el interruptor de FUNCTION a la posición de AM (MW).

Paso	AM SG (400 Hz, 30% MOD)		Indicación de frecuencia	Punto de ajuste	Procedimiento de ajuste
	Frecuencia	Nivel			
1	Sin señal		531 kHz	L151	Fije la patilla 62 del montaje del sintonizador a 1.3V (±0.1V)
2			1602 kHz	TC152	Fije la patilla del montaje del sintonizador a 10.0V (±0.3V)
3	Repita los pasos 1 y 2 hasta las dos clasificaciones especificadas sean satisfechas.				
4	603 kHz	60 dB	603 kHz	T151	Fije la salida de la patilla 55 del montaje del sintonizador al máximo nivel.
5	1395 kHz	60 dB	1395 kHz	TC151	
6	Fepita los pasos 4 y 5 hasta que las dos clasificaciones especificada sean satisfechas.				
7	Cerciórese de confirmar que el IND TUNING este encendido.				

Sécción del sintonizador de AM (LW)

- Conecte la antena de cuadro al generador de señal de AM (AM SG), y conecte la ANTENA de cuadro (del aparato) a la terminal de la ANTENA de AM.
- Fije el interruptor de FUNCTION a la posición AM (LW).

Paso	AM SG (400 Hz, 30% MOD)		Indicación de frecuencia	Punto de ajuste	Procedimiento de ajuste
	Frecuencia	Nivel			
1	Sin señal		281 kHz	L253	Fije la patilla 62 del montaje del sintonizador a 5.2V (±0.1V)
2	164 kHz	60 dB	164 kHz	T251	Fije la salida de la patilla 55 del montaje del sintonizador al máximo nivel.
3	254 kHz	60 dB	254 kHz	TC251	
4	Repita los pasos 2 y 3 hasta que las clasificaciones especificadas sean satisfechas.				

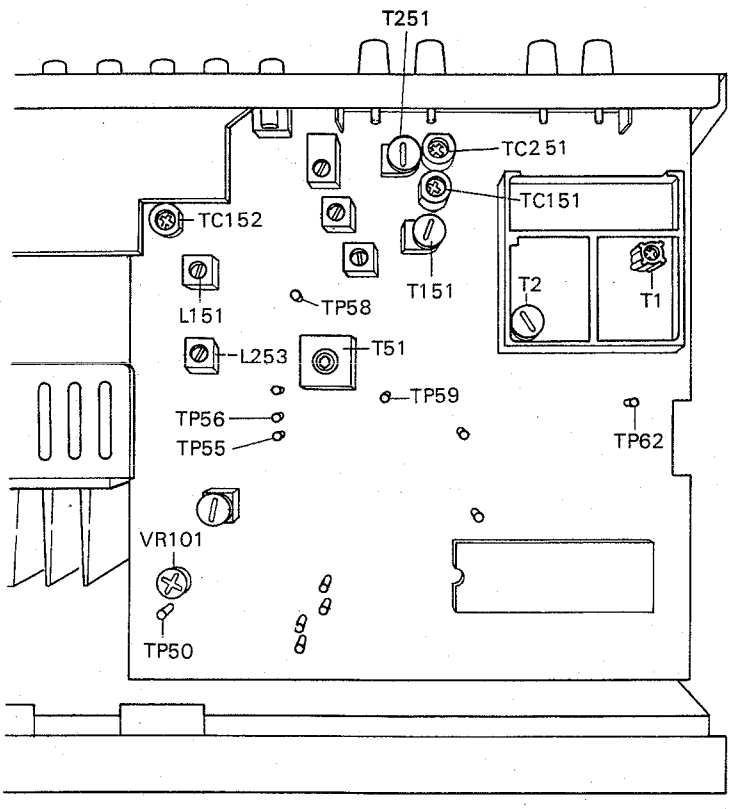


Fig. 14-1. Puntos de ajuste